Teaching program

PEIP

Academic year 2020-2021

Ecole polytechnique de l'université de Nantes

November 25, 2020

Contents

Part I

Tables of teaching units

Semester 1 - unit *PEIP A*

Knowledge of the Engineering Profession

Manager : GUEDON Jean-Pierre

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• The Engineering Profession: A Survey	2.5			17			*1*
TOTAL	2.5	0	0	17	0	0	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	2.5	0	0	17	0	0	0
Face-to-face sum	19.5						

Semester 1 - unit *PEIP D – GEII*

Design and Manufacturing

Manager : DIOURIS Jean-François

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Design and Manufacturing				36			*1*
TOTAL	0	0	0	36	0	0	

Tutorat GEII S1

Manager : DIOURIS Jean-François

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Tutoring GEII S1		1					*1*
TOTAL	0	1	0	0	0	0	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	0	1	0	36	0	0	0
Face-to-face sum	37						

Semester 1 - unit *PEIP D – INFO*

Tutorat INFO S1

Manager : RICORDEL Vincent

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Tutoring INFO S1		4					*1*
TOTAL	0	4	0	0	0	0	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	0	4	0	0	0	0	0
Face-to-face sum	4						

Semester 1 - unit *PEIP D – RT*

Design and Manufacturing

Manager : DIOURIS Jean-François

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Design and Manufacturing				36			*1*
TOTAL	0	0	0	36	0	0	

Tutoring RT S1

Manager : MOTTA CRUZ Eduardo

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Tutoring RT S1		2					*1*
TOTAL	0	2	0	0	0	0	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	0	2	0	36	0	0	0
Face-to-face sum	38						

Semester 2 - unit *PEIP A*

Repeated-measures Experiments

Manager : CROSNIER Olivier

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Repeated-measures Experiments	1.5	4.5	4	18.5		8	*1*
TOTAL	1.5	4.5	4	18.5	0	8	

Redox Thermochemistry

Manager : PAYEN Christophe

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Redox Thermochemistry	5	12	8			12	*1*
TOTAL	5	12	8	0	0	12	

Numerical Methods for Physics

Manager : LEPETIT Thomas

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Numerical Methods for Physics	5	9	18			3	*1*
TOTAL	5	9	18	0	0	3	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	11.5	25.5	30	18.5	0	23	0
Face-to-face sum	85.5						

Semester 2 - unit *PEIP D – GEII*

Physics and Technology

Manager : GOULLET Antoine

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Physics and Technology	12	4					*1*
TOTAL	12	4	0	0	0	0	

Tutoring GEII S2

Manager : DIOURIS Jean-François

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Tutoring GEII S2		4.5					*1*
TOTAL	0	4.5	0	0	0	0	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	12	8.5	0	0	0	0	0
Face-to-face sum	20.5						

Semester 2 - unit *PEIP D – INFO*

Tutoring INFO S2

Manager : RICORDEL Vincent

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Tutoring INFO S2		7.5					*1*
TOTAL	0	7.5	0	0	0	0	

Project INFO S2

Manager : RICORDEL Vincent

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Project INFO S2		3		42		6	*1*
TOTAL	0	3	0	42	0	6	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	0	10.5	0	42	0	6	0
Face-to-face sum	52.5						

Semester 2 - unit *PEIP D – RT*

Mathematics or Computer Science RT S2

Manager : MOTTA CRUZ Eduardo

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Mathematics or Computer Science RT S2		30					*0*
• Tutoring MP S2		4					*0*
TOTAL	0	34	0	0	0	0	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	0	34	0	0	0	0	0
Face-to-face sum	34						

Semester 3 - unit *PEIP A*

Physics S3 — ECTS : 10

Manager : LEPETIT Thomas

Course		Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Peip 2 Updating in Physics		6.25	9		6		8	*0*
• Electromagnetism 1		13.75	15		10.5		12	*1*
• Mechanics of Rigid Bodies		11.25	16.5		4.5		12	*1*
• Optics		12.5	16.5	3	10.5		12	*1*
▷ Peip 2 Coaching in Physics S3			24					*0*
TOTAL	min	43.75	57	3	31.5	0	44	
	max	43.75	81	3	31.5	0	44	

Mathematics S3 — ECTS : 9

Manager : SOURISSE Arnaud

Course		Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Peip 2 Updating in Computer Science		5	4.5		10.5		8	*0*
• Peip 2 Updating in Mathematics		3.75	9		6		8	*0*
• Algebra		16.25	14.25		6		12	*5*
• Functions of Several Variables, Geometry		12.5	16.5		9		12	*4*
▷ Peip 2 Coaching in Mathematics S3			24					*0*
TOTAL	min	37.5	44.25	0	31.5	0	40	
	max	37.5	68.25	0	31.5	0	40	

English S3 — ECTS : 2

Manager : MORVAN Marianne

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• English S3		22				4	*1*
TOTAL	0	22	0	0	0	4	

Project TU S3 — ECTS : 6

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Peip Tutored Project	1.25			41.5		8	*2*
• Peip Intership	1.25	3					*0*
• The PEIP Conference S3	11.25		3			20	*1*
TOTAL	13.75	3	3	41.5	0	28	

Elective Course TU

ECTS : 3

	Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
1 opt	▷ Algorithms and Data Structures	16	16		16		10	*1*
	▷ Digital Electronics	16	16		16		10	*1*
	▷ Thermal and Energy Engineering	16	16		16		10	*1*
	▷ Engineering Materials	16	16		16		10	*1*
	▷ New Technologies of Electrical Energy	16	16		16		10	*1*
TOTAL		16	16	0	16	0	10	

PEIP Post-PACES

Manager : GUEDON Jean-Pierre

	Course		Lect	Tut	PW	Proj	WP	Asst	*Coef*
0 à 4	▷ Post-PACES Coaching in Mathematics S3			25					*0*
	▷ Post-PACES Coaching in Physics S3			25					*0*
	▷ Peip 2 Summer Training in Mathematics		6.25	22.5				5	*0*
	▷ Peip 2 Summer Training in Physics		6.25	22.5				5	*0*
TOTAL		min	0	0	0	0	0	0	
		max	12.5	95	0	0	0	10	

Sum of semester

		Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	min	111	142.25	6	120.5	0	126	30
	max	123.5	285.25	6	120.5	0	136	
Face-to-face sum		379.75 à 535.25						

Semester 3 - unit *PEIP D – GEII*

Object-oriented Programming in Java

Manager : RAMSTEIN Gérard

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Object-oriented Programming in Java	12			17.5			*0*
TOTAL	12	0	0	17.5	0	0	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	12	0	0	17.5	0	0	0
Face-to-face sum	29.5						

Semester 3 - unit *PEIP D – INFO*

Mathematical Modelling INFO S3

Manager : RICORDEL Vincent

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Mathematical Modelling INFO S3		4		28		8	*1*
TOTAL	0	4	0	28	0	8	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	0	4	0	28	0	8	0
Face-to-face sum	32						

Semester 3 - unit *PEIP D – MP*

Project MP S3

Manager : MOREAU Luc

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Project MP S3				20		12	*1*
TOTAL	0	0	0	20	0	12	

Tutoring MP S3

Manager : AIT-AHMED Nadia

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Tutoring MP S3		4					*1*
TOTAL	0	4	0	0	0	0	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	0	4	0	20	0	12	0
Face-to-face sum	24						

Semester 3 - unit *PEIP D – RT*

Projet RT S3

Manager : MARTINEZ José

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Développement informatique RT S3	4	5	21				*0*
• Tutorat RT S3		4					*0*
TOTAL	4	9	21	0	0	0	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	4	9	21	0	0	0	0
Face-to-face sum	34						

Semester 4 - unit *PEIP A*

Physics S4 ECTS : 10

Manager : CHAUVET Olivier

Course		Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Electromagnetism 2		12.5	16.5	1.5			12	*1*
• Mechanics of Deformable Bodies		12.5	15		9		12	*1*
• Modern Physics		13.75	8		6.5		20	*1*
▷ Peip Coaching in Physics S4			24					*0*
TOTAL	min	38.75	39.5	1.5	15.5	0	44	
	max	38.75	63.5	1.5	15.5	0	44	

Mathematics S4 ECTS : 10

Manager : SOURISSE Arnaud

Course		Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Analysis and Probability		17.5	18		15.5		8	*4*
• Introduction to Numerical Analysis		11.25	9		10.5		12	*4*
• Modelling			3		18		8	*3*
▷ Peip Coaching in Mathematics S4			24					*0*
TOTAL	min	28.75	30	0	44	0	28	
	max	28.75	54	0	44	0	28	

Economics, Management, and Social Sciences TU S4 ECTS : 3

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Communication and Enterprise	5	12				7	*2*
• Business and Society	7.5	6				7	*1*
TOTAL	12.5	18	0	0	0	14	

Project TU S4 ECTS : 5

Manager : GUEDON Jean-Pierre

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• The PEIP Conference S4	11.25	2	6	6		40	*1*
TOTAL	11.25	2	6	6	0	40	

PEIP Post-PACES

Manager : LEPETIT Thomas

Course		Lect	Tut	PW	Proj	WP	Asst	*Coef*
0 à 2 ▷ Post-PACES Coaching in Mathematics S4			25					*0*
▷ Post-PACES Coaching in Physics S4			25					*0*
TOTAL	min	0	0	0	0	0	0	
	max	0	50	0	0	0	0	

English S4

ECTS : 2

Manager : MORVAN Marianne

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• English S4		22				4	*1*
TOTAL	0	22	0	0	0	4	

Sum of semester

		Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	min	91.25	111.5	7.5	65.5	0	130	30
	max	91.25	209.5	7.5	65.5	0	130	
Face-to-face sum		275.75 à 373.75						

Semester 4 - unit *PEIP D – GEII*

Project GEII S4

Manager : DIOURIS Jean-François

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Project GEII S4				28			*1*
TOTAL	0	0	0	28	0	0	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	0	0	0	28	0	0	0
Face-to-face sum	28						

Semester 4 - unit *PEIP D – INFO*

General Mathematics Support INFO S4

Manager : RICORDEL Vincent

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• General Mathematics Support INFO S4		4		20		6	*1*
TOTAL	0	4	0	20	0	6	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	0	4	0	20	0	6	0
Face-to-face sum	24						

Semester 4 - unit *PEIP D – MP*

Project MP S4

Manager : MOREAU Luc

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Project MP S4				28		10	*1*
TOTAL	0	0	0	28	0	10	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	0	0	0	28	0	10	0
Face-to-face sum	28						

Semester 4 - unit *PEIP D – RT*

Projet RT S4

Manager : MARTINEZ José

Course	Lect	Tut	PW	Proj	WP	Asst	*Coef*
• Projet RT S4				10			*0*
TOTAL	0	0	0	10	0	0	

Sum of semester

	Lect	Tut	PW	Proj	WP	Asst	ECTS
Sum	0	0	0	10	0	0	0
Face-to-face sum	10						

Part II

Sheets of courses

Algebra

Hours

Lect	Tut	PW	Proj	WP	Asst
16.25	14.25		6		12

Evaluation

3 evaluations :

- *CC1*
- *CC2*
- *Mini-projet*

Manager : Arnaud SOURISSE

Algorithms and Data Structures

Hours

Lect	Tut	PW	Proj	WP	Asst
16	16		16		10

Evaluation

2 evaluations :

- *Théorie*
- *Pratique*

Manager : Nicolas NORMAND

Analysis and Probability

Hours

Lect	Tut	PW	Proj	WP	Asst
17.5	18		15.5		8

Evaluation

3 evaluations :

- *CC1*
- *CC2*
- *CC3*

Manager : Arnaud SOURISSE

Business and Society

Hours

Lect	Tut	PW	Proj	WP	Asst
7.5	6				7

Evaluation

One evaluation : *Exposé*

Manager : Chrystèle GONCALVES

Communication and Enterprise

Hours

Lect	Tut	PW	Proj	WP	Asst
5	12				7

Evaluation

2 evaluations :

- *CC*
- *Exposé*

Manager : Chrystèle GONCALVES

Digital Electronics

Hours

Lect	Tut	PW	Proj	WP	Asst
16	16		16		10

Evaluation

2 evaluations :

- *Théorie*
- *Pratique*

Manager : Sébastien PILLEMENT

Electromagnetism 1

Hours

Lect	Tut	PW	Proj	WP	Asst
13.75	15		10.5		12

Evaluation

4 evaluations :

- *CC1*
- *CC2*
- *Biblio*
- *Soutenance + Rapport*

Bibliography

- Électromagnétisme 1ère année - J.M. Brébec - Collection Hprépa - Hachette Sup
- Électromagnétisme 1 - J.P. Faroux - Collection J'intègre - Dunod
- Physique - C. More - Collection Tec&Doc - Lavoisier
- Le cours de Physique de Feynman - Électromagnétisme 1 ; R.Feynman, R. Leighton, M. Sands ; Dunod (2014)

Learning outcomes

Learning outcomes	N	A	M	E	O
• modelize a charge (or current) source distribution using a volumic, surfacic or lineic charges (or current) density	·	·	✓	·	·
• know how to switch equations from local to integral forms (using Green Ostrogradski and Stokes theorem)	·	✓	·	·	·
• Calculate directly electrostatic (or magnetostatic) fields integrating a finite density of charges (or currents)	·	✓	·	·	·
• modelize electrostatic and magnetostatic phenomena using a scalar or vector field	·	·	✓	·	·
• Manipulate basic vector operators (gradient, divergence, curl and laplacian)	·	✓	·	·	·
• Adapt the description scale (micro, meso or macroscopic) to the problem	·	·	✓	·	·
• Use the superposition principle to solve complex problems	·	·	✓	·	·
• Propose analogies between gravitationnal et electrostatic force (order of magnitude, Gauss theorem)	·	·	✓	·	·
• Use COMSOL multiphysics simulation software	·	✓	·	·	·
• Use a programmation software to produce a representation of a physic situation	·	✓	·	·	·
• Work as a team or in autonomy inside a project	·	·	✓	·	·

Manager : Thomas LEPETIT

Electromagnetism 2

Hours

Lect	Tut	PW	Proj	WP	Asst
12.5	16.5	1.5			12

Evaluation

3 evaluations :

- *CC1*
- *CC2*
- *Pratique*

Manager : Thomas LEPETIT

Engineering Materials

Hours

Lect	Tut	PW	Proj	WP	Asst
16	16		16		10

Evaluation

3 evaluations :

- *Théorie*
- *Soutenance*
- *Rapport*

Manager : Emmanuel BERTRAND

English S3

Hours

Lect	Tut	PW	Proj	WP	Asst
	22				4

Evaluation

3 evaluations :

- *Participation*
- *Radio Ad*
- *Song presentation*

Manager : Marianne MORVAN

English S4

Hours

Lect	Tut	PW	Proj	WP	Asst
	22				4

Evaluation

4 evaluations :

- *Re-enacting a scene*
- *Scriptwriting*
- *Sequence analysis*
- *Participation*

Manager : Marianne MORVAN

Functions of Several Variables, Geometry

Hours

Lect	Tut	PW	Proj	WP	Asst
12.5	16.5		9		12

Evaluation

3 evaluations :

- *CC1*
- *CC2*
- *Mini-projet*

Manager : Arnaud SOURISSE

General Mathematics Support INFO S4

Hours

Lect	Tut	PW	Proj	WP	Asst
	4		20		6

Evaluation

One evaluation : *Restitution*

Presentation

Additional general mathematics.

Work conducted in groups with varying sizes.

Outline

Group work on different topics, leading to:

- study complements in analysis, general and linear algebra, geometry, probabilities, and the links between these different areas of mathematics.
- see the links with computer sciences, with the solving of problems and the analysis of situations involving different mathematical domains
- study applications (e.g. cryptography, signal compression, image processing, formal calculation)

Goals

Give to the students the additional mathematics that are necessary for their future studies, both in terms of knowledge and complex reasoning skills.

Learning outcomes

Learning outcomes	N	A	M	E	O
• To know general mathematics and their links with computer sciences	·	✓	·	·	·

Manager : Vincent RICORDEL

Introduction to Numerical Analysis

Hours

Lect	Tut	PW	Proj	WP	Asst
11.25	9		10.5		12

Evaluation

3 evaluations :

- *CC1*
- *CC2*
- *Pratique*

Manager : Jean-Pierre GUEDON

Mathematical Modelling INFO S3

Hours

Lect	Tut	PW	Proj	WP	Asst
	4		28		8

Evaluation

One evaluation : *CC*

Presentation

From a group work on deliberately imprecise statements, an algorithmic formulation is deduced from the uses of mathematical objects (matrices, graphs, trees) in order to solve the problem by computer way.

Some examples of problems:
- the cutting of the carpenter for a set of kitchens furnitures in a building
- the "Tour de France" of 14 Polytech's schools
- the Mojette game
- the matching between videos and testers
- the non-regular tesselation of a dining room
- the signatures games

Outline

The work is conducted in groups on different subjects,
and it leads to:
- formulate a problem, and to model it
- search the necessary mathematical tools, possibly situate them in a historical perspective
- formulate a complete or partial solution, and implement it
- use adapted softwares

Goals

Implementing knowledge in mathematics by working in groups around a given problem

Bibliography

How to solve a problem, George Polya

Concrete mathematics, Ronald. L. Graham, Donald E. Knuth, Oren Patashnik

Learning outcomes

Learning outcomes	N	A	M	E	O
• To know how to formulate a problem mathematiquelly	·	✓	·	·	·
• To know how to solve a problem by computer sciences	·	✓	·	·	·

Manager : Vincent RICORDEL

Mechanics of Deformable Bodies

Hours

Lect	Tut	PW	Proj	WP	Asst
12.5	15		9		12

Evaluation

3 evaluations :

- *CC1*
- *CC2*
- *Rapport*

Manager : Steven LE CORRE

Mechanics of Rigid Bodies

Hours

Lect	Tut	PW	Proj	WP	Asst
11.25	16.5		4.5		12

Evaluation

3 evaluations :

- *CC1*
- *CC2*
- *Pratique*

Manager : Steven LE CORRE

Modelling

Hours

Lect	Tut	PW	Proj	WP	Asst
	3		18		8

Evaluation

2 evaluations :

- *CC*
- *Exposé*

Manager : Jean-Pierre GUEDON

Modern Physics

Hours

Lect	Tut	PW	Proj	WP	Asst
13.75	8		6.5		20

Evaluation

2 evaluations :

- *CC*
- *Soutenance*

Manager : Olivier CHAUVET

New Technologies of Electrical Energy

Hours

Lect	Tut	PW	Proj	WP	Asst
16	16		16		10

Evaluation

3 evaluations :

- *Théorie 1*
- *Théorie 2*
- *Pratique*

Manager : Luc MOREAU

Numerical Methods for Physics

Hours

Lect	Tut	PW	Proj	WP	Asst
5	9	18			3

Evaluation

2 evaluations :

- *CC Pratique*
- *CC Oral*

Manager : Jean-Pierre GUEDON

Object-oriented Programming in Java

Hours

Lect	Tut	PW	Proj	WP	Asst
12			17.5		

Evaluation

One evaluation : *CC*

Manager : Gérard RAMSTEIN

Optics

Hours

Lect	Tut	PW	Proj	WP	Asst
12.5	16.5	3	10.5		12

Evaluation

3 evaluations :

- *CC1*
- *CC2*
- *Pratique*

Manager : Thomas LEPETIT

Peip Intership

Hours

Lect	Tut	PW	Proj	WP	Asst
1.25	3				

Evaluation

One evaluation : *Rapport*

Manager : Chrystèle GONCALVES

Peip Tutored Project

Hours

Lect	Tut	PW	Proj	WP	Asst
1.25			41.5		8

Evaluation

One evaluation : *Projet*

Manager : Fabien PICAROUGNE

Physics and Technology

Hours

Lect	Tut	PW	Proj	WP	Asst
12	4				

Evaluation

One evaluation : *Rapport biblio.*

Manager : Antoine GOULLET

Project GEII S4

Hours

Lect	Tut	PW	Proj	WP	Asst
			28		

Evaluation

One evaluation : *Soutenance*

Manager : Jean-François DIOURIS

Project INFO S2

Hours

Lect	Tut	PW	Proj	WP	Asst
	3		42		6

Evaluation

One evaluation : *Pratique*

Presentation

Description and planning of short projects in computer sciences.

The work is conducted in groups of varying size.

Outline

A set of activities and tasks, related to the conduct of a short project in computer sciences, is conducted with for instance:

- Writing a specification
- Constitution of a team
- Distribution, planning and execution of tasks
- Time and delay management
- Documentation, report and oral presentation

Goals

Implementation of project management methods in computer sciences.

Learning outcomes

Learning outcomes	N	A	M	E	O
• To know how to manage a short project in computer sciences	·	✓	·	·	·

Manager : Vincent RICORDEL

Project MP S3

Hours

Lect	Tut	PW	Proj	WP	Asst
			20		12

Evaluation

One evaluation : *Soutenance*

Manager : Luc MOREAU

Project MP S4

Hours

Lect	Tut	PW	Proj	WP	Asst
			28		10

Evaluation

One evaluation : *Soutenance*

Manager : Luc MOREAU

Redox Thermochemistry

Hours

Lect	Tut	PW	Proj	WP	Asst
5	12	8			12

Evaluation

2 evaluations :

- *CC Ecrit*
- *CC Pratique*

Manager : Christophe PAYEN

Repeated-measures Experiments

Hours

Lect	Tut	PW	Proj	WP	Asst
1.5	4.5	4	18.5		8

Evaluation

One evaluation : *Note*

Manager : Olivier CROSNIER

The Engineering Profession: A Survey

Hours

Lect	Tut	PW	Proj	WP	Asst
2.5			17		

Evaluation

One evaluation : *Rapport d'étonnement*

Manager : Jean-Pierre GUEDON

The PEIP Conference S3

Hours

Lect	Tut	PW	Proj	WP	Asst
11.25		3			20

Evaluation

One evaluation : *Avant-projet*

Manager : Thomas LEPETIT

The PEIP Conference S4

Hours

Lect	Tut	PW	Proj	WP	Asst
11.25	2	6	6		40

Evaluation

5 evaluations :

- *Rapport scientifique*
- *Analyse*
- *Conduite de projet*
- *Soutenance*
- *TP numérique guidé*

Manager : Thomas LEPETIT

Thermal and Energy Engineering

Hours

Lect	Tut	PW	Proj	WP	Asst
16	16		16		10

Evaluation

2 evaluations :

- *Théorie TE*
- *Théorie GPB*

Tutoring INFO S2

Hours

Lect	Tut	PW	Proj	WP	Asst
	7.5				

Evaluation

One evaluation : *Pratique*

Manager : Vincent RICORDEL